

# PATENT SPECIFICATION

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(19)



## (54) DEVICE FOR FIXING A CONTAINER

(71) We, ASSOCIATED CONTAINER TRANSPORTATION SERVICES LIMITED, a British company, of 136, Fenchurch Street, London, E.C.3., do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 This invention relates to a device for fixing a container, in particular for assisting in the bridging of two spaced 20 foot containers with one 40 foot container when returning empty containers in a container ship. It is important to fix the upper layer of containers so as to prevent the upper containers from sliding or falling. Such containers have at each of their corners a hollow corner piece which is provided in each of its three orthogonal faces with an aperture.

20 The present invention particularly relates to a device for fixing a container which can be locked to such a corner piece of a container and which can also be fixed to a support such as a further container arranged below the container to which the device is locked.

30 Accordingly, the present invention provides a device for fixing a container comprising a single locking member for insertion through an aperture in a hollow corner piece of a container and for co-operating with the corner piece to fix the device to the latter, the locking member being shaped so as to be insertable through the said aperture in one position of the device but not removable through the aperture after rotation of the device to another position thereof, means whereby the locking member may be raised or lowered relative to the rest of the device, and an aperture in the base of the device through which a fixing member may in use be passed for fixing the device to a support.

45 The locking member is preferably a rectangular plate which is in use inserted through a rectangular aperture in the bottom face of the corner piece, the plate lying in

plane which is generally parallel to the bottom face of the corner piece through which it is inserted. The device may then be rotated, preferably through 90°, so that the longitudinal axis of the locking plate is then at an angle to, preferably perpendicular to, the longitudinal axis of the rectangular aperture, as a result of which the locking plate cannot then be withdrawn through the aperture.

The means for raising and lowering the locking member may be for example a screw mechanism particularly for clamping the bottom face of the corner piece firmly between the locking member and the frame of the device in the rotated position of the latter.

60 The device is in use fixed to a support by means of the aperture in the base of the frame of the device, through which aperture may be passed a fixing member for fixing the device to a support such as a further container arranged below the container to which the device is locked.

70 In use, the device is brought up adjacent a corner piece at the base of a container, so as to be disposed generally along the axis of the shorter side of the container. The rectangular locking member of the device is then inserted from below through a rectangular aperture in the bottom face of the corner piece. The whole device is then rotated through 90° so that the device is disposed generally along the axis of the longer side of the container, and with the longitudinal axis of the rectangular locking member lying at 90° to the longitudinal axis of the rectangular aperture. A screw mechanism or the like is then operated to partially lower the locking member and clamp the bottom face of the corner piece firmly between the locking member and the frame of the device.

80 The device is then fixed, for example to another container arranged below the container to which the device is locked, by passing a lashing fitting through the aperture in the base of the frame of the device and

securing the fitting to the lower container.

Four such devices will be provided, one at each of the lower corners of the container.

5 The invention will be further described, by way of example only, with reference to the accompanying drawings, in which:—

10 Figure 1 is a schematic side view of a device according to the invention for fixing a container, with the locking member of the device being in the locking position; and

Figures 2 and 3 are respectively plan and end views of the device shown in Figure 1.

15 The device shown in the drawings comprises a frame 1 at one end of which is provided a rectangular locking plate 2 disposed in a head 3 on the upper end of a rod 4. The plate 2 is vertically movable by means of a screw mechanism including a washer 5 disposed at the lower end of the rod 4 and a nut 6 which may be rotated by an operating member (not shown). The rod 4 may for example have an external screw thread and the nut 6 may have a co-operating internal screw thread, whereby rotation of the nut 6 causes the locking plate 2 to move up and down, rotation of the rod 4 being prevented by virtue of the head 3 being of square cross-section. An aperture 7 is provided in the base 8 of the frame 1.

30 The container to which the device is to be locked has at each of its corners (at least at the base of the container) a hollow corner piece which is provided in each of its orthogonal faces with an aperture. The device shown in the drawings is fixed to one of the hollow corner pieces of the container in the following manner.

40 The device is brought up partly below the corner piece at the base of the container, the device being disposed along the axis of the shorter side of the container. In this position the longitudinal axis of the plate 2 lies along the longer side of the container. The locking plate 2 is inserted through the container aperture, which is rectangular with the longitudinal axis thereof being disposed along the longer side of the container, and the device is then rotated through 90° so that the device is disposed along the axis of the

50 longer side of the container. The longitudinal axis of the rectangular locking plate 2 now lies at 90° to the longitudinal axis of the rectangular aperture. The nut 6 is then rotated to partially lower the locking plate and clamp the bottom face of the corner piece firmly between the locking plate 2 and the frame of the device. 55

The device is then fixed to another container arranged below the container to which the device is locked by passing a lashing fitting through the aperture 7 in the base 8 of the frame 1, and securing the fitting to the lower container. 60

#### WHAT WE CLAIM IS:—

1. A device for fixing a container comprising a single locking member for insertion through an aperture in a hollow corner piece of a container and for co-operating with the corner piece to fix the device to the latter, the locking member being shaped so as to be insertible through the said aperture in one position of the device but not removable through the aperture after rotation of the device to another position thereof, means whereby the locking member may be raised or lowered relative to the rest of the device, and an aperture in the base of the device through which a fixing member may in use be passed for fixing the device to a support. 65 70 75 80

2. A device as claimed in Claim 1 wherein the locking member is a rectangular plate for insertion through a rectangular aperture in the bottom face of the corner piece in one position of the device, the said plate not being removable through the aperture after rotation of the device to another position thereof. 85

3. A device for fixing a container substantially as herein described with reference to, and as shown in, the accompanying drawings. 90

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